

Group A Streptococcal (GAS) Disease

Fact Sheet

What is group A streptococcus (GAS)?

Group A streptococci are bacteria often found in the throat and on the skin. People may carry group A streptococci in the throat or on the skin and have no symptoms of disease. The vast majority of GAS infections are relatively mild illnesses, such as strep throat and impetigo. On rare occasions, these bacteria can cause much more severe and even life-threatening diseases such as necrotizing fasciitis or streptococcal toxic shock syndrome (STSS).

How are group A streptococci spread?

These bacteria are spread through direct contact with mucus from the nose or throat of persons who are infected or through contact with infected wounds or sores on the skin. Ill persons, such as those who have strep throat or skin infections, are most likely to spread the infection. Persons who carry the bacteria but have no symptoms are much less contagious. Treating an infected person with an antibiotic for 24 hours or longer generally eliminates their ability to spread the bacteria. However, it is important to complete the entire course of antibiotics as prescribed. It is not likely that household items like plates, cups, or toys spread these bacteria.

What kind of illnesses are caused by group A streptococcal infection?

Infection with GAS can result in a range of symptoms:

No illness

Mild illness (strep throat or a skin infection such as impetigo)

Severe illness (necrotizing fasciitis, streptococcal toxic shock syndrome)

Severe, sometimes life-threatening, GAS disease may occur when bacteria get into parts of the body where bacteria usually are not found, such as the blood, muscle, or the lungs. These infections are termed "invasive GAS disease." Two of the most severe, but least common, forms of invasive GAS disease are necrotizing fasciitis and STSS. Necrotizing fasciitis (occasionally described by the media as "the flesh-eating bacteria") destroys muscles, fat, and skin tissue. STSS causes blood pressure to drop rapidly and organs (e.g., kidney, liver, lungs) to fail. STSS is not the same as the "toxic shock syndrome" frequently associated with tampon usage. About 20% of patients with necrotizing fasciitis and more than half with STSS die. About 10%-15% of patients with other forms of invasive group A streptococcal disease die.

How common is invasive group A streptococcal disease?

About 10,000 cases of invasive GAS disease occurred in the United States in 1998. Of these, about 600 were STSS and 800 were necrotizing fasciitis. In contrast, there are several million cases of strep throat and impetigo each year. In 1998 there were 18 cases of invasive GAS disease reported in Missouri.

Why does invasive group A streptococcal disease occur?

Invasive GAS infections occur when the bacteria get past the defenses of the person who is infected. This may occur when a person has sores or other breaks in the skin that allow the bacteria to get into the tissue, or when the person's ability to fight off the infection is decreased because of chronic illness or an illness that affects the immune system. Also, some virulent strains of GAS are more likely to cause severe disease than others.

Who is most at risk of invasive group A streptococcal disease?

Few people who come in contact with a virulent strain of GAS will develop invasive GAS disease; most will have a routine throat or skin infection and some may have no symptoms whatsoever.

Although healthy people can get invasive GAS disease, people with chronic illnesses like cancer, and diabetes, people receiving kidney dialysis, and those who use medications such as steroids, are at higher risk. In addition, breaks in the skin, like cuts, surgical wounds or chickenpox may provide an opportunity for the bacteria to enter the body.

What are the early signs and symptoms of necrotizing fasciitis and streptococcal toxic shock syndrome?

Early signs and symptoms of necrotizing fasciitis:

Fever

Severe pain and swelling

Redness at a wound site

Early signs and symptoms of STSS:

Fever

Dizziness

Confusion

A flat red rash over large areas of the body

How is invasive group A streptococcal disease treated?

GAS infections can be treated with many different antibiotics. Early treatment may reduce the risk of death from invasive group A streptococcal disease. However, even the best medical care does not prevent death in every case. For those with very severe illness, supportive care in an intensive care unit may be needed. For persons with necrotizing fasciitis, surgery often is needed to remove damaged tissue.

What can be done to help prevent group A streptococcal infections?

The spread of all types of GAS infection can be reduced by good hand washing, especially after coughing and sneezing and before preparing foods or eating. A doctor who can perform tests to find out whether the illness is strep throat should see all persons with sore throats. If the test result shows strep throat, the person should stay home from work, school, or childcare until 24 hours after taking an antibiotic. All wounds should be kept clean and watched for possible signs of infection such as redness, swelling, drainage, and pain at the wound site. A person with signs of an infected wound, especially if fever occurs, should seek medical care. It is not necessary for all persons exposed to someone with an invasive group A strep infection (i.e. necrotizing fasciitis or strep toxic shock syndrome) to receive antibiotic therapy to prevent infection. However, in certain circumstances, antibiotic therapy may be appropriate. That decision should be made after consulting with your doctor.

Missouri Department of Health and Senior Services
Section of Communicable Disease Control and Veterinary Public Health
Phone: (800) 392-0272 (573) 751-6113